example, such a mechanism may be used that detects an image within a predetermined range along the separation passage.

Although in the embodiment of FIG. 11 the electrophoretic chip migrates between the positions A, B, and C, the invention is not limited to it; for example, the electrophoretic chip may be fixed to the chip holding station so that the electrophoretic-medium filling mechanism, the electrophoretic-medium sucking mechanism, the buffer-liquid injection mechanism, the specimen injection mechanism, the specimen sucking mechanism, and the voltage supplying mechanism or a combination thereof may be moved above or below the fixed electrophoretic chip.

Although in the embodiment of FIG. 11 the electrophoretic chip provided with the four reservoirs is used, the invention is not limited to it; for example, the invention may be applied to such an electrophoretic chip that is provided with at least five reservoirs, that is, many separation passages.

Furthermore, although in the embodiment of FIG. 11 the electrophoretic chip having the mutually intersecting specimen-introduction passages and separation passages formed therein, the invention is not limited to it; for example, the invention may be applied to such an electrophoretic chip that has formed therein separation passage intersecting with no passage, that has formed therein a separation passage intersecting with a plurality of passages, that has multiple channels, or that has a large size. In such a case, it is necessary to change the nozzle configuration of the electrophoretic-medium filling mechanism, the electrophoretic-medium sucking mechanism, the buffer-liquid injection mechanism, the specimen-injection mechanism, and the specimen sucking mechanism according to the arrangement of the reservoirs.

Although in FIG. 11 such a voltage supplying mechanism is provided that is equipped with the electrodes 141 permitted to advance into the buffer liquid and the specimen, the invention is not limited to it; for example, such a voltage supplying mechanism may be used that is equipped with electrodes for connection to chip side electrodes, if formed on the surface of the electrophoretic chip, for continuity to the reservoirs.

The electrophoretic apparatus shown in FIG. 11 is provided with the chip holding mechanism, the electrophoretic-medium filling mechanism, the specimen injection mechanism, the voltage supplying mechanism, the detecting mechanism, and the control part for controlling these mechanisms so as to operate these mechanisms, thus enabling automatically filling the chip device with an electrophoretic medium, injecting the specimen into one of the reservoirs, and separating and detecting the specimen.

If it further includes the electrophoretic sucking mechanism for removing the electrophoretic medium contained in the reservoirs and the buffer-liquid injection mechanism for injecting the buffer liquid into the reservoirs after the electrophoretic medium is removed therefrom in such a configuration that the control part controls the electrophoretic-medium sucking mechanism and the buffer-liquid injection mechanism so that they may operate automatically in such a manner that the electrophoretic sucking mechanism would remove the electrophoretic medium from the reservoirs and, into the reservoirs from which the electrophoretic medium is thus removed, the buffer-liquid injection mechanism would inject the buffer liquid, even in a case where such an electrophoretic medium is used that cannot come in direct contact with the electrode for voltage application, and a voltage can be applied on the electrophoretic medium through the buffer liquid.

Furthermore, by providing the specimen injection mechanism, the electrophoretic-medium sucking mechanism, and the buffer-liquid injection mechanism independently of each other, a process of cleaning the nozzles, for example, can be omitted to thereby greatly reduce the analysis cycle time, thus resulting in a higher throughput.

Furthermore, the reservoirs can be filled with a buffer liquid simultaneously, thus mitigating the influence of a head difference (water head difference).

It is possible to prevent an excessive amount of the specimen from being injected into the passages if a specimen sucking mechanism for removing the specimen left in the reservoirs is further provided and also controlled by the control part so as to operate automatically in such a manner that after a specimen

is injected into the passage when a voltage is applied by the voltage supplying part on the reservoirs the voltage application is once stopped to operate the specimen sucking mechanism to remove, by suction, the specimen left in the specimen reservoir and then the voltage application is restarted on the reservoirs to separate and detect the specimen.

Furthermore, the specimen injection mechanism and the specimen sucking mechanism are provided independently of each other and the nozzle cleaning process can be omitted to thereby greatly reduce the analysis cycle time, thus resulting in a higher throughput.